

effort has been made to teach the people by means of posters, leaflets, food exhibits and demonstrations, but progress is slow. Classes of practical instruction in dietetics have been begun at some of the Baby Health Stations. This work is carried on by the nurses of the health stations, for they know the needs of the mothers in their district.

The Regulation of the Intestinal Flora through Diet.—TORREY (*Jour. Med. Research*, January, 1919, p. 415) states that it is now well known that diet exercises a profound influence on the determination of the types of bacteria developing in the intestinal tract. In fact, under conditions of normal physiological functioning within the digestive tube it is the fundamental factor. The work of HERTER and KENDALL (*Jour. Biol. Chem.*, 1910, vii, 203) was the first to establish clearly this fact. Under normal physiological conditions the fundamental factor controlling the types of bacteria vegetating in the intestinal tract is the chemical character of the food ingested. Secondary controlling factors of almost equal weight are the rate and degree of the digestion and absorption of the food and the character of the end-products of the digestive process. It has been demonstrated experimentally in Torrey's investigation with dogs that, on the one hand, not all carbohydrates have an equal tendency to establish a purely fermentative intestinal flora, and, on the other hand, not all protein foods encourage putrefactive conditions in a like degree.

The Effect of Carbon Dioxide in the Cultivation of the Meningococcus.—GATES (*Jour. Exper. Med.*, 1919, 4, xxix, 321) states that the meningococcus is not a "micro-aërophile." It grows equally well in atmospheres containing from 15 to 40 per cent. oxygen. If small amounts of carbon dioxide affect the growth of the meningococcus on an artificial medium it is by changing the reaction of the medium, not by slightly reducing the oxygen tension of the surrounding air. The fallibility of titrating the total acidity of a medium is again clearly demonstrated. A reaction favorable to the meningococcus cannot be determined from the total titratable acidity but depends solely upon the hydrogen ion concentration of the medium. The optimum for the meningococcus is approximately at pH 7.4. The value of a moist chamber in the cultivation of the meningococcus is shown by unusually luxuriant growth when other conditions are also favorable.

Pneumonia Following Influenza.—McCALLUM (*Jour. Am. Med. Assn.*, 1919, lxxii, 720) states that the epidemic disease influenza resembles in many respects measles and other acute exanthematic diseases. Nothing is definitely known as to its causative agent. It produces great lowering of resistance to bacterial invasion and is therefore often followed by pneumonia caused by the different types of pneumococcus, Staphylococcus aureus, Streptococcus hemolyticus or the influenza bacillus of Pfeiffer. In some regions the influenza bacillus is a particularly common secondary invader. In other regions it is insignificant, its place being taken by one of the pneumococci. This may depend on an epidemic or endemic distribution of these organisms as inhabitants of the nasopharynx. The form of pneu-

monia produced after influenza is greatly modified by the lowering of resistance, which allows huge numbers of bacteria to grow. Nevertheless, the types caused by the pneumococcus, streptococcus and influenza bacillus are to be sharply distinguished. Probably the type caused by the staphylococcus will be shown to have distinctive peculiarities when adequate material has been studied.

The Effect of Pressure on Certain Microorganisms Encountered in Preserving Fruits and Vegetables.—HIRE (*Bull. 146, West Virginia Agricul. Exper. Sta.*, October, 1918) finds that a pressure of 100,000 pounds per square inch at room temperature destroys most non-spore-bearing bacteria. Under these conditions milk containing from 30 to 40 millions per cubic centimeter may be reduced to a few hundred by the application of 100,000 pounds for ten minutes. The pressure does not affect the enzymes. Forty-five thousand pounds' pressure is sufficient to kill *B. typhosus* in beef broth in ten minutes. *B. diphtheriae* in beef broth are killed at 40,000 pounds' pressure in ten minutes.

Relation of Meteorological Conditions to the Prevalence of Pneumonia.—GREENBERG (*Jour. Am. Med. Assn.*, 1919, lxxii, 252) states that in studying the death-rate of lobar pneumonia in its relation to meteorological conditions, it has been found that: (1) Temperature *per se* is the most important controlling factor; (2) a low relative humidity is conducive to a high-death rate, and a high relative humidity to a low death-rate; (3) increases in the death-rate correspond to increasing temperature variations.

Origin of the So-called Auto-intoxication Symptoms.—ALVAREZ (*Jour. Am. Med. Assn.*, 1919, lxxii, 8) states that "auto-intoxication" is commonly diagnosed when a physical examination would show other more definite causes for the symptoms. Those who believe that intestinal stasis can account for a long list of disease conditions have little proof to offer for their views. Many of the assumptions on which they rest their case have been proved to be wrong. The usual symptoms of the constipated disappear so promptly after a bowel movement that they cannot be due to absorbed toxins. They must be produced mechanically by distention and irritation of the colon. They occur in nervous, sensitive people. It has been shown that various activities of the digestive tract can profoundly affect the sensorium and the vasomotor nerves. The old ideas of insidious poisoning lead to the formation of hypochondriacs: the new explanation helps to cure many of them.

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